



2014 Annual Report

Washington Inspection/Maintenance (I/M) Program

Contact Information

For more information, contact:

Air Quality Program
P.O. Box 47600
Olympia, WA 98504-7600

Phone: 360-407-6800

Washington State Department of Ecology - www.ecy.wa.gov

- Headquarters, Olympia 360-407-6000
- Northwest Regional Office, Bellevue 425-649-7000
- Southwest Regional Office, Olympia 360-407-6300
- Central Regional Office, Yakima 509-575-2490
- Eastern Regional Office, Spokane 509-329-3400

To ask about the availability of this document in a format for the visually impaired, call the Air Quality Program at 360-407-6800. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

2014 Annual Report

Washington Inspection/Maintenance (I/M) Program

by;

Kerry Swayne
Washington Department of Ecology
3190 160th Ave SE
Bellevue, WA 98008
425-649-7101

&

John Dillon
Washington Department of Ecology
3190 160th Ave SE
Bellevue, WA 98008
425-649-7198

Air Quality Program
Washington State Department of Ecology
Olympia, Washington

This page is purposely left blank

Table of Contents

	<u>Page</u>
List of Figures and Tables.....	10
Figures.....	10
Tables.....	10
Acknowledgements.....	11
Executive Summary	12
EPA Summary	13
Background	14
Enforcement:.....	16
Key Findings	18
Fewer Vehicles Tested This Year.....	18
Initial Test Failures Increased.....	19
Certificate of Acceptance Increased	20
Quality Assurance (QA)	21
Quality Assurance Data (2014).....	23
Quality Control	24

List of Figures and Tables

	<u>Page</u>
Figures	
Figure 1 - Emission Check Area Map.....	14
Figure 2 - Number of vehicles tested.....	18
Figure 3 - Number of vehicles failed first test	19
Figure 4 - Number of vehicles receiving a waiver or COA	20
Tables	
Table 1 - Annual Summary 2014.....	21
Table 2 - QA Audit Data for 2014 EPA Report.....	22
Table 3 - 1. Vehicles Tested	25
Table 4 - 2i. Vehicles Failing Initially	26
Table 5 - 2ii. Vehicles Failing First Retest	29
Table 6 - 2iii. Vehicles Passing First Retest	32
Table 7 - 2iv. Vehicles Passing the Second or Subsequent Retest	35
Table 8 - 2v. Vehicles Initially Failed Receiving a Waiver.....	38
Table 9 - 2vi. Vehicles With No Known Final Outcome	41
Table 10 - 2xi 2xii. Vehicles Passing and Failing OBD	44
Table 11 - 2xix. MIL Commanded On and No Codes Stored	45
Table 12 - 2xx. MIL Commanded Off and Codes are Stored.....	46
Table 13 - 2xxi. MIL Commanded On and Codes Stored	47
Table 14 - 2xxii. MIL Commanded Off and No Codes Stored	48
Table 15 - 2xxiii. Vehicles Failing the Readiness Status.....	49
Table 16 - 3 a.) Initial Test Volume Centralized Test Stations	50
Table 17 - 3 b.) Initial Test Volume Decentralized Test Stations	51
Table 18 - Continued 3 b.) Initial Test Volume Decentralized Test Stations	52
Table 19 - Continued 3 b.) Initial Test Volume Decentralized Test Stations	53
Table 20 - 4a) Initial Test Failure Rate - Centralized Test Stations	54
Table 21 - 4b) Initial Test Failure Rate Decentralized Test Stations.....	55
Table 22 – Continued 4b) Initial Test Failure Rate Decentralized Test Stations	56
Table 23 – Continued 4b) Initial Test Failure Rate Decentralized Test Stations	57

Acknowledgements

The authors of this report would like to thank the following people for their contributions:

- Nick Roach
- John Raymond
- Chuck Pierce
- Sarah Elledge

Executive Summary

This report provides emission testing data, quality assurance, and quality control information along with compliance and enforcement actions as required by the United States Environmental Protection Agency (EPA) under 40 CFR 51.366.

The data presented in this report represents 1,034,634 vehicle emission tests that were conducted by the Washington State Department of Ecology's contractor, Applus Technologies Inc, and the Authorized Testing Facilities (ATF's) for the year 2014.

Emission test data snapshot:

- 1,034,634 vehicles tested.
- 932,394 vehicles passed first initial test.
- 102,238 vehicles failed initial test at a 9.88% failure rate.
- 32,834 repair waivers were issued to 32.11% of failed vehicles or 3.17% of the total vehicles tested.

EPA reporting sections are as follows	
1) The number of vehicles tested by model year and vehicle type	1,034,634
2i) Failing Initially Per Test Type	102,240
2ii) Failing the First Retest	43,400
2iii) Passing First Retest	45,972
2iv) Initially Failed Vehicles Passing the Second or Subsequent Retest	7,876
2v) Initially Failed Vehicles receiving a Waiver	32,834
2vi) Initially Failed Vehicles with Unknown Outcome	18,728
2xi) Passing the Onboard Diagnostic Check	793,767
2xii) Failing the Onboard Diagnostic Check	138,140
2xix) MIL is commanded on and no codes stored	535
2xx) MIL is not commanded on and codes are stored	9,532
2xi) MIL is commanded on codes stored	103,164
2xxii) MIL is commanded off and no codes stored	818,330
2xxiii) Vehicles Failing the Readiness Status.	34,598
3) The initial Test Volume by model year and test station	1,034,634
4) The Initial test fail rate by model year and test station	102,238

EPA Summary

Contractor: Applus Technologies - Centralized and Decentralized

January 1 through December 31, testing included Two Speed Idle (TSI), On Board Diagnostic (OBDII), and Diesel-snap, whose model year (1990 through 2009) indicated that a test was required:

1034634	(1) The number of vehicles tested by test type				
	1034634	Vehicles Tested	Subtotals	% Total	Test Type
			837302	80.93%	OBD
			166207	16.06%	Two-Speed Idle
			31125	3.01%	Diesel Snap
1022238	(2i) Failing initially per test type				
9.88%	of Total Vehicles Tested				
	Subtotals	%	Test Type		
	91750	10.96%	OBD		
	8177	4.92%	Two-Speed Idle		
	2311	7.42%	Diesel Snap		
43400	(2ii) Failing the first retest per test type				
48.56%	of Failing Initially				
	Subtotals	%	Test Type		
	39185	48.61%	OBD		
	3314	48.83%	Two-Speed Idle		
	901	45.60%	Diesel Snap		
45972	(2iii) Passing the first retest per test type				
51.44%	of Failing Initially				
	Subtotals	%	Test Type		
	41424	51.39%	OBD		
	3473	51.17%	Two-Speed Idle		
	1075	54.40%	Diesel Snap		
7876	(2iv) Initially failed vehicles passing the 2nd or greater retest				
47.31%	of Failing Initially				
	Subtotals	%	Test Type		
	6793	48.54%	OBD		
	836	41.65%	Two-Speed Idle		
	247	38.24%	Diesel Snap		
32834	(2v) Initially failed vehicles receiving a waiver				
32.11%	of Failing Initially				
	Subtotals	%	Test Type		
	30196	32.91%	OBD		
	2083	25.47%	Two-Speed Idle		
	555	24.02%	Diesel Snap		
18841	(2vi) Vehicles with no known final outcome				
1.82%	of Failing Initially				
	Subtotals	%	Test Type		
	15986	1.91%	OBD		
	2365	1.42%	Two-Speed Idle		
	490	1.57%	Diesel Snap		
793767	(2xi) Passing the OBD Test				
85.18%	of Total OBD Vehicles Tested				
138140	(2xii) Failing the OBD Test				
14.82%	of Total OBD Vehicles Tested				
535	(2xix) MIL On and No DTC's Stored				
0.06%	of Total OBD Vehicles Tested				
103164	(2xx) MIL Off and DTC's Stored				
11.07%	of Total OBD Vehicles Tested				
9532	(2xxi) MIL On and DTC's Stored				
1.02%	of Total OBD Vehicles Tested				
818330	(2xxii) MIL Off and No DTC's Stored				
87.81%	of Total OBD Vehicles Tested				
34598	(2xxiii) Not Ready for the OBD Test				
3.71%	of Total OBD Vehicles Tested				

Background

Motor vehicles are one of the main sources of pollution. The pollution they cause triggers asthma and is linked to other health issues, including cancer, and heart attacks. More than a third of Washington's residents are at risk from this pollution due to age or medical condition, or have at least one medical condition that is made worse by the pollution.

Motor vehicles, along with other transportation related sources also produce nearly half of the greenhouse gas emissions in Washington State. Various studies have shown that greenhouse gases have an impact on climate change. The effects of climate change in Washington State include reduced snow pack, low summer stream flows, more winter flooding, increased coastal erosion, reduced water supplies for people and agriculture, and further loss of salmon habitat.

This is Washington State's 32nd year of emission testing. Provision of the Washington State emission testing program can be found in WAC 173-422A. An emission test is biennial, required every other year for most vehicles registered in the most populous five counties of the state. State and local government vehicles are inspected annually. 2009 model year and newer gas vehicles and 2007 and newer diesel vehicles are and will be exempt from emission testing. Vehicles more than 25 years old are exempt from testing. Vehicles sold by car dealers are exempt for title transfer purposes.

Emission testing is conducted in urban areas of the five most populous counties in the state--Snohomish, King, Pierce Clark and Spokane County. The map below shows the emission check test areas within the state of Washington.

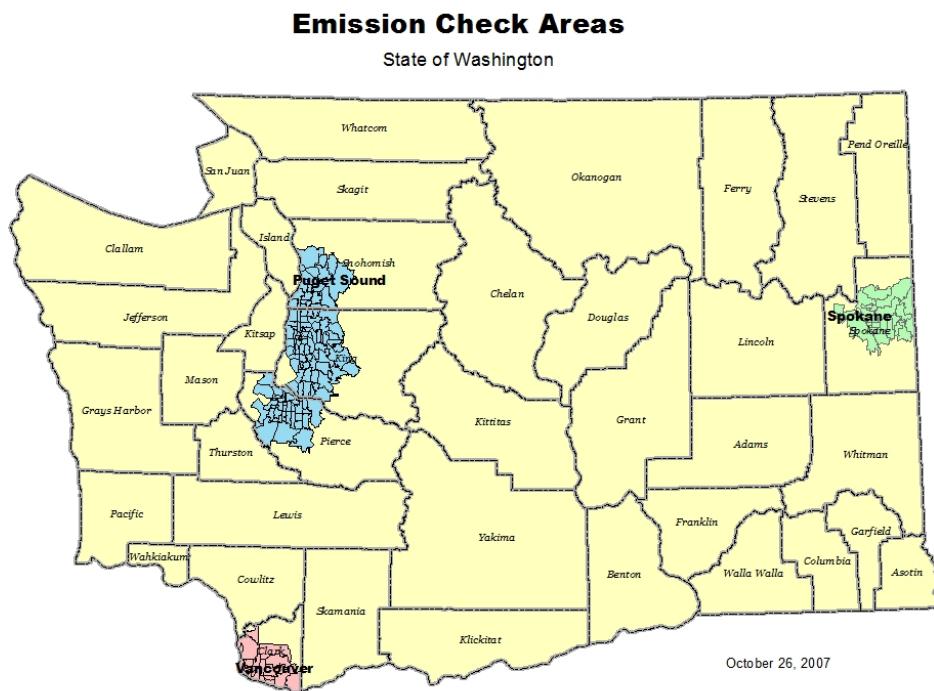


Figure 1 - Emission Check Area Map

The Washington emission test program has evolved from six centralized testing facilities, idle only testing, to sixteen centralized stations with multiple testing capabilities. While cars and trucks are running cleaner through new technologies and advance fuel systems, more and more vehicles are driving on state and local roads, contributing to high emissions levels.

The Washington Emission Check Program is estimated to reduce more than 149,000 tons of air pollution in Washington State per year.

In 1977, the Clean Air Act, (CAA) was amended to address nonattainment of national ambient air quality standards affecting both stationary and mobile sources.

In 1982, emission testing of vehicles began with six centralized testing facilities in King and Snohomish Counties. Originally, vehicles received an idle only test, later this evolved into the Two Speed Idle (TSI) test. Technician training began with the program. The training syllabus has evolved along with the testing procedures.

The 1990 Clean Air Act, (CAA), took a comprehensive approach to reduce pollution from motor vehicles. The CAA strategy addressed clean fuels, clean transportation alternatives, clean cars, and the Inspection and Maintenance (I/M) Program.

In 1993, the Emission Check Program added more centralized testing facilities. The testing procedures now includes; TSI, Acceleration Simulation Mode (ASM) and Diesel testing.

On July 2002, On Board Diagnostic II (OBDII) testing began on all applicable passenger vehicles and light duty trucks.

In 2008, the contractor installed self-service kiosks at eight centralized testing facilities. The kiosk was specifically for OBDII vehicles and light duty trucks.

In 2011, the contract was again awarded to Applus Technologies, effective July 1, 2012.

In June 2012, Applus Technologies, Inc. began retrofitting the centralized testing facilities, complying with the contractual agreement. This includes adding video cameras for each lane to provide live feed of each test and dual vehicle testing per lane.

In July 2012, the revised state emission test rule, Chapter 173-422A WAC, took effect. Provisions in WAC are to make an emission test easier and more convenient for the consumer. The Washington I/M program are now a hybrid system. It includes both centralized and decentralized inspection facilities.

Any business may apply to become an Authorize Testing Facility (ATF). The ATF chooses which test format serves them best. The analyzers are configured specifically for the test type(s) the ATF requests. Available are; OBDII, TSI, Diesel snap or any combination of the 3. The ATF must meet specific criteria before purchase of equipment. Only employees trained and registered can perform emission testing.

In April 2013, the first ATF began emission testing and by the end of 2014, there were 13 analyzers in operation.

Enforcement:

There is a high level of compliance with the emission-testing requirement due to an emission test being required for vehicles prior to renewing their license. This is referred to as registration denial. If a vehicle owner does not obtain a required emissions test or a Certificate of Acceptance (COA), they are unable to complete the registration process.

The Washington Department of Licensing either mails or emails the resident's renewal notification in advance of expiration, informing the resident if an emission test is required. This insures that the residents have ample time for testing and repairs, if needed. A web site is provided, www.emissiontestwa.com for the residents that answers many questions that might arise before and after testing.

Each lane at the centralized and decentralized testing facilities is on video to deter fraudulent testing. This allows Ecology to remotely view the testing procedures from start to finish. The video is specific to each test and is stored along with the testing data.

The cabinet sections that contain the analyzer system at the ATF(s) have a tamper resistant door. If the door is opened by unauthorized personnel, a lockout will automatically be generated. Preventing the system from performing any more tests until the lockout is cleared by authorized personnel.

There are many different lockouts in the analyzer system. The lockouts can be set by the analyzer or be transmitted by the Electronic Host Computer System (eHCS). If a lockout is set, then subsequent emission inspections are prohibited until the applicable lockout(s) have been cleared.

The software used in the analyzer consists of a process control system as well as a data look up files. Security is provided that prevents any unauthorized modifications to the software.

A fraud table exists containing the items that should be used to check for fraud during an OBD inspection. Each item is assigned a fraud level, which can be altered by an authorized person on the eHCS. The fraud levels and the actions taken are as follows:

- SEVERE - The test will be failed, and a flag will be set in the test record indicating fraud was detected.
- HIGH - The test will be abort, and a flag will be set in the test record indicating fraud was detected.
- MODERATE - A station manager override will be required, but the test will be allowed to continue. A flag will be set in the test record indicating potential fraud was detected.
- LOW - A flag will be set in the test record indicating potential fraud was detected.
- NONE - The item will not be checked for any fraud.

For identification and documentation, biometrics is utilized at the centralized and decentralized testing facilities.

The waiver process in Washington requires the repair shop to be certified. It is a voluntary program and participating shops must agree to terms as stipulated in the WAC. Violations could result in disciplinary action and/or removal from the program. Waivers can only be issued at the centralized testing facilities.

A mandatory annual refresher course, one-day session, is required for all of the AES training instructors in order to retain their certification with the state. The syllabus is part refresher, reviewing procedures and program updates which shall be communicated to their students.

Key Findings

Fewer Vehicles Tested This Year

In 2014, a total of 1,034,634 vehicles were tested, a decline of 141,839 from 2013. With the phase out of light duty diesel testing, which began in April 2012 and model year 2009 and newer vehicles exempt, fewer vehicle types were tested during 2014. The 2014 total of vehicles tested is a reduction of 30,622 from 2010, 156,863 from 2011, 41,516 from 2012, and 141,839 from 2013.

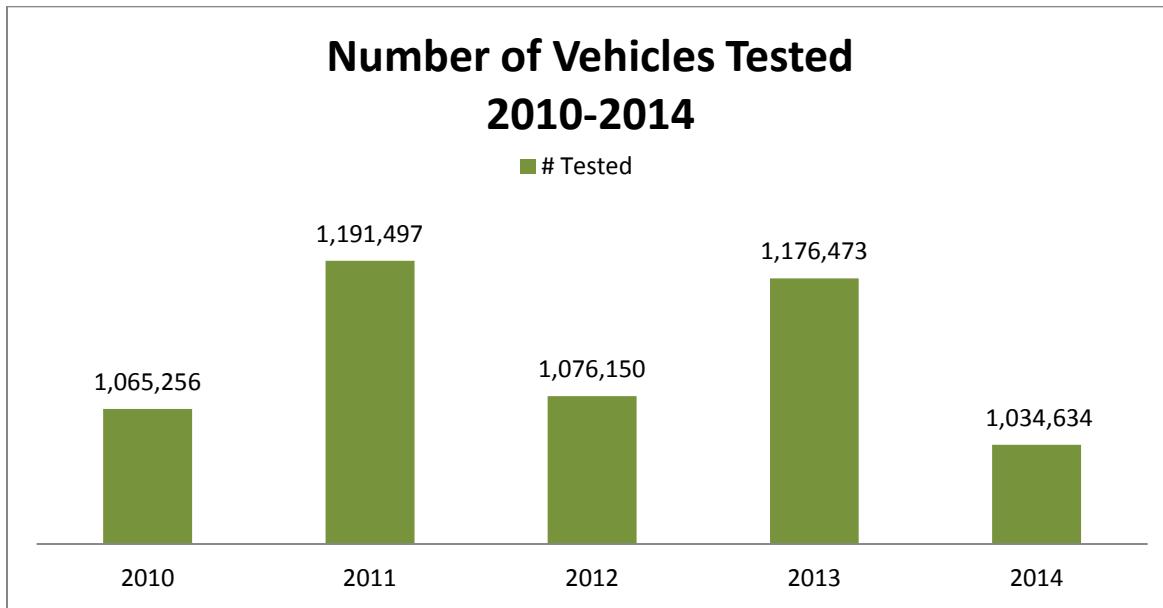


Figure 2 - Number of vehicles tested

Initial Test Failures Increased

There was an increase of 511 failed tests during 2014 over 2013. The failure percentage for 2014 is 9.88% a difference of 1.23% over 2013. 2012 failure rates were higher than the two previous years as shown in figure 3. The increase in failures may be attributed to vehicles “not ready” for OBD testing now failing the initial test as of July 2012. The failure percentages for pre “readiness” issues 2010 – 2011 were averaging 7.57% and post “readiness” issues 2012 – 2013 averaging 9.19%.

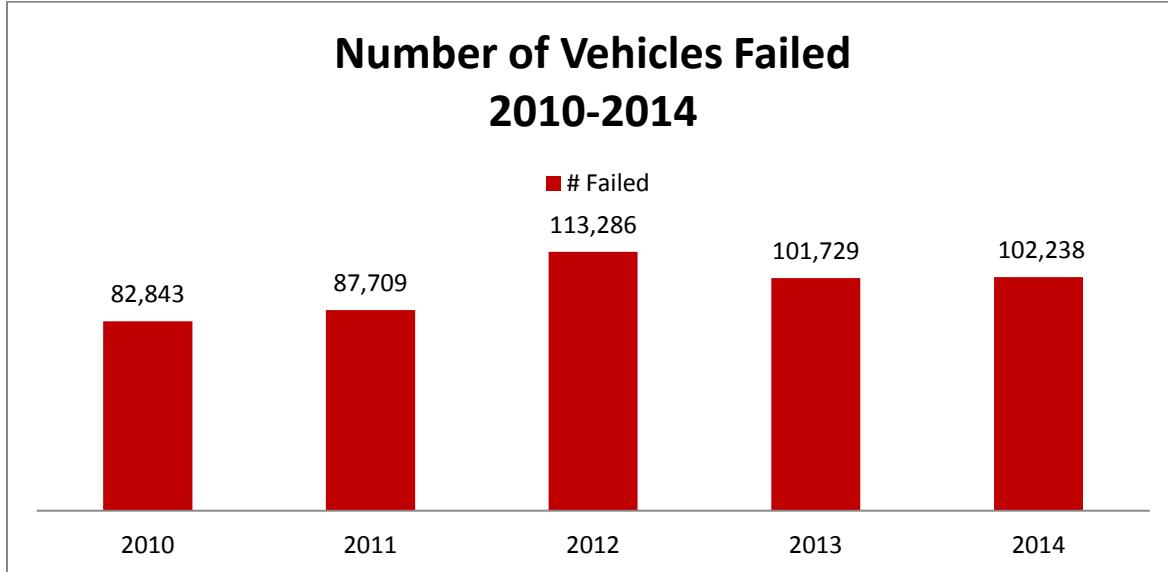


Figure 3 - Number of vehicles failed first test

Certificate of Acceptance Increased

A Certificate of Acceptance (COA) is commonly referred to as a repair waiver and is granted to a vehicle that completes the emission testing process by another means than by passing an actual emission test. A vehicle may receive a COA after meeting specific repair and financial requirements or a COA may be granted after meeting other criteria determined by Ecology. Causes for many of the COA being issued are for an OBD vehicle that failed the initial test for not being ready.

The number of vehicles receiving a waiver increased over the previous year from 29,513 in 2013 to 32,834 in 2014, a difference of 3,321 vehicles. A large proportion of these failures and waivers can be attributed to readiness issues during the first test of OBDII vehicles. There is also an increase in percentages. In 2014, 32.11% of failed vehicles received a waiver or 3.17% of the total vehicles tested. In 2013, 29.01% of failed vehicles received a waiver or 2.51% of total vehicles tested-a difference of 3.1%

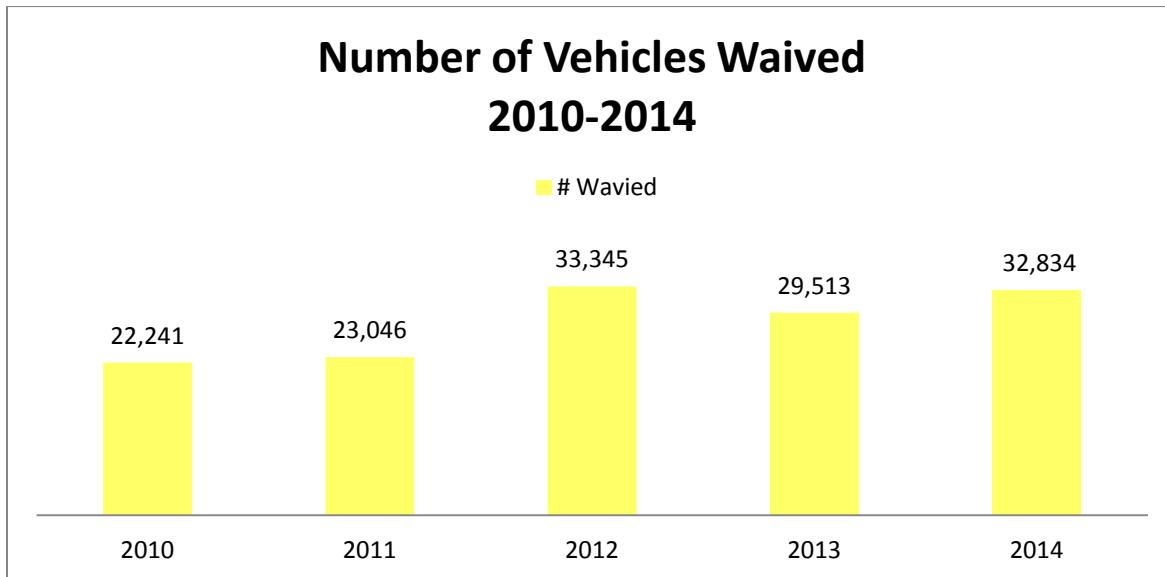


Figure 4 - Number of vehicles receiving a waiver or COA

Quality Assurance (QA)

The QA audits are a proactive process used to identify and document any equipment failures that impede the testing process and is performed to ensure that the consumer receives an accurate emission test.

Performance audits are performed on a majority of the inspection lanes monthly, which exceed the yearly EPA requirements. This audit frequency allows Ecology to monitor the testing facilities closely ensuring compliance.

QA can identify failing equipment and software irregularities. QA is also used to determine whether procedures are being followed and issues that may impede the testing process are made known and addressed.

Table 1 - Annual Summary 2014

NWRO		Lanes Audited	FAIL	FAULT	Closed
	Jan-14	39	10	2	0
	Feb-14	39	16	5	2
	Mar-14	39	13	3	0
	Apr-14	39	26	6	4
	May-14	39	18	5	2
	Jun-14	39	10	2	2
	Jul-14	39	15	3	2
	Aug-14	39	19	2	2
	Sep-14	39	16	3	5
	Oct-14	39	23	3	2
	Nov-14	39	16	0	5
	Dec-14	39	13	1	2
Sub Total		468	195	35	28
			41.7%		

VFO		Lanes Audited	FAIL	FAULT	Closed
	Jan-14	9	4	0	0
	Feb-14	9	4	0	0
	Mar-14	9	9	0	0
	Apr-14	9	5	0	0
	May-14	9	0	0	0
	Jun-14	9	9	0	0
	Jul-14	9	0	0	0
	Aug-14	9	0	0	0
	Sep-14	9	9	0	0
	Oct-14	9	0	0	0
	Nov-14	9	0	0	0
	Dec-14	9	9	1	0
Sub Total		108	49	1	0
			45.4%		

SWRO		Lanes Audited	FAIL	FAULT	Closed
	Jan-14	14	5	0	0
	Feb-14	14	0	0	0
	Mar-14	14	14	0	0
	Apr-14	14	0	0	0
	May-14	14	0	0	0
	Jun-14	14	14	0	1
	Jul-14	14	0	0	0
	Aug-14	14	0	0	0
	Sep-14	14	14	0	0
	Oct-14	14	0	0	0
	Nov-14	14	0	0	0
	Dec-14	14	14	0	0
Sub Total		168	61	0	1
			36.3%		

ERO		Lanes Audited	FAIL	FAULT	Closed
	Jan-14	8	8	1	0
	Feb-14	8	8	0	0
	Mar-14	8	8	0	1
	Apr-14	8	8	0	0
	May-14	8	8	0	0
	Jun-14	8	8	1	0
	Jul-14	8	8	0	0
	Aug-14	8	8	1	0
	Sep-14	8	8	0	0
	Oct-14	8	8	0	0
	Nov-14	8	8	1	0
	Dec-14	8	8	1	0
Sub Total		96	96	5	1
			100.0%		

Total of all Regions	Lanes	Lanes Audited	FAIL	FAULT	Closed
	840	401	41	30	0
			47.74%		

Table 2 - QA Audit Data for 2014 EPA Report

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Lanes Audited
Station													
Marysville	0	4	0	4	0	0	4	0	4	0	4	0	
Everett	0	4	0	4	0	0	4	0	4	0	4	0	
Lynnwood	0	3	0	3	0	0	3	0	3	0	3	0	
North Seattle	0	5	0	5	0	5	0	0	5	0	5	0	195
South Seattle	5	0	0	5	0	5	0	5	0	5	0	0	
Redmond	0	0	4	0	4	0	4	0	0	4	0	4	
Bellevue	0	0	4	0	4	0	0	4	0	4	0	4	
Renton	5	0	0	5	5	0	0	5	0	5	0	0	
Auburn	0	0	5	0	5	0	0	5	0	5	0	5	
Fife	0	0	5	0	0	5	0	0	5	0	0	5	
Puyallup	0	0	4	0	0	4	0	0	4	0	0	4	61
Lakewood	5	0	5	0	0	5	0	0	5	0	0	5	
W. Vancouver	4	4	4	0	0	4	0	0	4	0	0	4	
E. Vancouver	0	0	5	5	0	5	0	0	5	0	0	5	49
W. Spokane	4	4	4	4	4	4	4	4	4	4	4	4	
E. Spokane	4	4	4	4	4	4	4	4	4	4	4	4	96
Totals	70	840											
Stations audited	6	7	10	9	6	9	6	6	11	7	6	10	93
Lanes Audited	27	28	44	39	26	41	23	27	47	31	24	44	401
All Failures	3	7	3	10	7	6	5	6	8	5	6	5	71
Stations with fails	2	3	1	3	3	4	4	3	3	3	5	4	38
Lanes shut down	0	0	0	0	0	0	0	0	0	0	0	0	0

2014 Totals	
Stations per year	192
Station Audits	93 48.44%
Lanes per year	840
Lane Audits	401 47.74%
Stations having failures	93 48.44%
Stations shut down	0 0.00%
Lanes shut down	0 0.00%

Key	
NWRO	Northwest Regional Office
SWRO	Southwest Regional Office
VFO	Vancouver Regional Office
ERO	Eastern Regional Office

Quality Assurance Data (2014)

- (1) The number of inspection stations and lanes:
- (i) Operating throughout the year were 16 centralized inspection stations with 70 lanes.
 - (ii) January through December, 12 decentralized inspection facilities totaling 13 analyzers.
- (2) The number of inspection stations and lanes operating throughout the year:
- (i) Receiving overt performance audits in the year:
January through December, 16 centralized inspection stations totaling 70 lanes and 12 decentralized stations totaling 13 lanes.
 - (ii) Not receiving overt performance audits in the year:
None
 - (iii) Receiving covert performance audits in the year:
None
 - (iv) Not receiving covert performance audits in the year:
16 inspection stations and 12 decentralized stations totaling 83 lanes.
 - (v) Stations that have been shut down because of overt performance audits:
None
- (3) The number of covert audits:
- (i) Conducted with the vehicle set to fail per test type:
None
 - (ii) Conducted with the vehicle set to fail any combination of two or more test types:
None
 - (iii) Resulting in a false pass per test type:
None
 - (iv) Resulting in a false pass for any combination of two or more test types:
None
- (4) The number of inspectors and stations:
- (i) That were suspended, fired, or otherwise prohibited from testing as a result of covert audits:
None
 - (ii) That were suspended, fired, or otherwise prohibited from testing for other causes:
None
 - (iii) That received fines:
None
- (5) The number of inspectors licensed or certified to conduct testing:
The contractor employees testing vehicles were approximately 200 during 2012.
- (6) The number of hearings:
- (i) Held to consider adverse actions against inspectors and stations:
None
 - (ii) Resulting in adverse actions against inspectors and stations:
None
- (7) The total amount collected in fines from inspectors and stations by type of violations:
None
- (8) The total number of covert vehicles available for undercover audits over the year:
None
- (9) The number of covert auditors available for undercover audits:
None

Quality Control

- (1) The number of emission testing sites and lanes in use in the program:
 - January through December, 16 inspection stations, totaling 70 full time operating lanes.
 - January through December, 12 ATFs totaling 13 analyzers, emission testing totaling 17,510 by December 31rst.
- (2) The number of equipment audits by station and lane:
 - The goal is to audit 25% of the test station lanes per month.
 - This equates to 210 test lanes audited annually.
 - 401 was the total of test lanes audited representing 190.95% of the required number.
- (3) The number and percentage of stations that have failed equipment audits:
 - 12 of the 16 test stations had equipment failures.
 - 75.0% of stations experienced an equipment failure(s).
- (4) Number and percentage of stations and lanes shut down as a result of equipment audits:
 - No stations were closed.
 - No lanes were shut down.
 - All of the 41 equipment failures were immediately repaired.
 - Service to the public was not interrupted.

Table 3 - 1. Vehicles Tested

Fuel Type	Model Year	Test Count	Test Count	Test Count
Diesel	1982	0	1	1
	1984	0	1	1
	1985	0	1	1
	1986	0	1	1
	1987	0	3	3
	1988	0	7	7
	1989	0	70	70
	1990	0	589	589
	1991	0	189	189
	1992	0	703	703
	1993	0	262	262
	1994	0	1108	1108
	1995	0	391	391
	1996	0	376	376
	1997	0	2517	2517
	1998	0	416	416
	1999	0	4192	4192
	2000	0	812	812
	2001	0	4634	4634
	2002	0	724	724
	2003	0	4916	4916
	2004	0	895	895
	2005	0	6059	6059
	2006	0	1252	1252
	2007	0	677	677
	2008	0	194	194
	2009	0	63	63
	2010	0	22	22
	2011	0	10	10
	2012	0	15	15
	2013	0	19	19
	2014	0	6	6
Subtotal Diesel		0	31125	31125
Gas	1965	1	0	1
	1969	1	0	1
	1976	0	1	1
	1977	0	1	1
	1978	1	0	1
	1979	2	0	2
	1980	1	0	1
	1983	3	0	3
	1984	6	2	8
	1985	4	2	6
	1986	17	2	19
	1987	28	4	32
	1988	58	10	68
	1989	871	215	1086
	1990	20592	2042	22634
	1991	4988	453	5441
	1992	27755	1967	29722
	1993	6623	510	7133
	1994	43985	2942	46927
	1995	9306	691	9997
	1996	9061	612	9673
	1997	75874	3714	79588
	1998	13676	657	14333
	1999	99232	5103	104335
	2000	17292	1094	18386
	2001	122269	5026	127295
	2002	16698	905	17603
	2003	138399	5222	143621
	2004	16270	1141	17411
	2005	152730	4733	157463
	2006	16266	1441	17707
	2007	151861	4107	155968
	2008	14034	833	14867
	2009	717	53	770
	2010	384	19	403
	2011	262	17	279
	2012	460	11	471
	2013	177	9	186
	2014	53	10	63
	2015	3	0	3
Subtotal Gas		959960	43549	1003509
Total for Diesel & Gas		959960	74674	1034634

Table 4 - 2i. Vehicles Failing Initially

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
OBD	1996	7870	2102	26.71%				7870	2102	26.71%
	1997	73948	14138	19.12%				73948	14138	19.12%
	1998	13142	2659	20.23%				13142	2659	20.23%
	1999	98895	13170	13.32%				98895	13170	13.32%
	2000	17159	2840	16.55%				17159	2840	16.55%
	2001	121831	19499	16%				121831	19499	16%
	2002	16444	2858	17.38%				16444	2858	17.38%
	2003	136923	14621	10.68%				136923	14621	10.68%
	2004	16188	1823	11.26%				16188	1823	11.26%
	2005	152127	10077	6.62%				152127	10077	6.62%
	2006	15922	1226	7.70%				15922	1226	7.70%
	2007	150797	6149	4.08%				150797	6149	4.08%
	2008	14003	529	3.78%				14003	529	3.78%
	2009	717	32	4.46%				717	32	4.46%
	2010	383	14	3.66%				383	14	3.66%
	2011	262	6	2.29%				262	6	2.29%
	2012	459	5	1.09%				459	5	1.09%
	2013	176	4	2.27%				176	4	2.27%
	2014	53	0	0%				53	0	0%
	2015	3	0	0%				3	0	0%
Subtotal		837302	91752	10.96%				837302	91752	10.96%

Continued: Table 4 - 2i. Vehicles Failing Initially

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
Two-Speed Idle	1965	1	1	100%	0	0	0%	1	1	100%
	1969	1	1	100%	0	0	0%	1	1	100%
	1976	0	0	0%	1	1	100%	1	1	100%
	1977	0	0	0%	1	0	0%	1	0	0%
	1978	1	0	0%	0	0	0%	1	0	0%
	1979	2	1	50%	0	0	0%	2	1	50%
	1980	1	1	100%	0	0	0%	1	1	100%
	1983	3	2	66.67%	0	0	0%	3	2	66.67%
	1984	6	1	16.67%	2	0	0%	8	1	12.5%
	1985	4	1	25%	2	2	100%	6	3	50%
	1986	17	3	17.65%	2	0	0%	19	3	15.79%
	1987	28	5	17.86%	4	0	0%	32	5	15.62%
	1988	58	8	13.79%	10	0	0%	68	8	11.76%
	1989	872	92	10.55%	214	38	17.76%	1086	130	11.97%
	1990	20594	1577	7.66%	2040	226	11.08%	22634	1803	7.97%
	1991	4992	481	9.64%	449	43	9.58%	5441	524	9.63%
	1992	27754	1629	5.87%	1968	157	7.98%	29722	1786	6.01%
	1993	6624	503	7.59%	509	36	7.07%	7133	539	7.56%
	1994	43987	1829	4.16%	2941	190	6.46%	46928	2019	4.3%
	1995	9306	545	5.86%	690	63	9.13%	9996	608	6.08%
	1996	1191	64	5.37%	612	32	5.23%	1803	96	5.32%
	1997	1926	124	6.44%	3714	134	3.61%	5640	258	4.57%
	1998	537	33	6.15%	654	18	2.75%	1191	51	4.28%
	1999	339	41	12.09%	5100	112	2.2%	5439	153	2.81%
	2000	133	11	8.27%	1095	27	2.47%	1228	38	3.09%
	2001	440	23	5.23%	5024	42	0.84%	5464	65	1.19%
	2002	256	4	1.56%	904	6	0.66%	1160	10	0.86%
	2003	1478	14	0.95%	5220	20	0.38%	6698	34	0.51%
	2004	82	0	0%	1141	2	0.18%	1223	2	0.16%
	2005	604	3	0.5%	4731	13	0.27%	5335	16	0.3%
	2006	348	3	0.86%	1438	4	0.28%	1786	7	0.39%
	2007	1064	6	0.56%	4107	4	0.1%	5171	10	0.19%
	2008	34	1	2.94%	829	0	0%	863	1	0.12%
	2009	0	0	0%	53	0	0%	53	0	0%
	2010	1	0	0%	19	0	0%	20	0	0%
	2011	0	0	0%	17	0	0%	17	0	0%
	2012	1	0	0%	11	0	0%	12	0	0%
	2013	1	0	0%	9	0	0%	10	0	0%
	2014	0	0	0%	10	0	0%	10	0	0%
Subtotal Two-Speed Idle		122686	7007	5.71%	43521	1170	2.69%	166207	8177	4.92%

Continued: Table 4 - 2i. Vehicles Failing Initially

		Light Duty Vehicle			Heavy Duty Vehicle			Total		
Test Type	Model Year	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
Diesel Snap	1982				1	0	0%	1	0	0%
	1984				1	0	0%	1	0	0%
	1985				1	0	0%	1	0	0%
	1986				1	0	0%	1	0	0%
	1987				3	0	0%	3	0	0%
	1988				7	1	14.29%	7	1	14.29%
	1989				70	9	12.86%	70	9	12.86%
	1990				589	93	15.79%	589	93	15.79%
	1991				189	19	10.05%	189	19	10.05%
	1992				702	134	19.09%	702	134	19.09%
	1993				263	52	19.77%	263	52	19.77%
	1994				1108	284	25.63%	1108	284	25.63%
	1995				391	64	16.37%	391	64	16.37%
	1996				375	44	11.73%	375	44	11.73%
	1997				2517	270	10.73%	2517	270	10.73%
	1998				416	49	11.78%	416	49	11.78%
	1999				4193	175	4.17%	4193	175	4.17%
	2000				811	34	4.19%	811	34	4.19%
	2001				4636	177	3.82%	4636	177	3.82%
	2002				724	29	4.01%	724	29	4.01%
	2003				4917	408	8.3%	4917	408	8.3%
	2004				895	47	5.25%	895	47	5.25%
	2005				6060	308	5.08%	6060	308	5.08%
	2006				1249	76	6.08%	1249	76	6.08%
	2007				677	23	3.4%	677	23	3.4%
	2008				194	14	7.22%	194	14	7.22%
	2009				63	0	0%	63	0	0%
	2010				22	0	0%	22	0	0%
	2011				10	0	0%	10	0	0%
	2012				15	0	0%	15	0	0%
	2013				19	0	0%	19	0	0%
	2014				6	1	16.67%	6	1	16.67%
Subtotal Diesel Snap					31125	2311	7.42%	31125	2311	7.42%
Grand Total		959988	98759	10.29%	74646	3481	4.66%	1034634	102240	9.88%

Table 5 - 2ii. Vehicles Failing First Retest

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
OBD	1996	1887	1051	55.70%				1887	1051	55.70%
	1997	11894	6387	53.70%				11894	6387	53.70%
	1998	2458	1191	48.45%				2458	1191	48.45%
	1999	11118	5328	47.92%				11118	5328	47.92%
	2000	2753	1333	48.42%				2753	1333	48.42%
	2001	16842	9115	54.12%				16842	9115	54.12%
	2002	2824	1352	47.88%				2824	1352	47.88%
	2003	12782	5896	46.13%				12782	5896	46.13%
	2004	1821	776	42.61%				1821	776	42.61%
	2005	8962	3832	42.76%				8962	3832	42.76%
	2006	1230	502	40.81%				1230	502	40.81%
	2007	5473	2226	40.67%				5473	2226	40.67%
	2008	534	188	35.21%				534	188	35.21%
	2009	14	3	21.43%				14	3	21.43%
	2010	8	2	25%				8	2	25%
	2011	2	1	50%				2	1	50%
	2012	4	1	25%				4	1	25%
	2013	3	1	33.33%				3	1	33.33%
	2014	0	0	0%				0	0	0%
	2015	0	0	0%				0	0	0%
Subtotal		80609	39185	48.61%				80609	39185	48.61%

Continued: Table 5 - 2ii. Vehicles Failing First Retest

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
Two-Speed Idle	1965	1	1	100%	0	0	0%	1	1	100%
	1969-1985	1	1	0%	0	0	0%	1	1	0%
	1986	1	1	100%	0	0	0%	1	1	100%
	1987	1	0	0%	0	0	0%	1	0	0%
	1988	4	1	25%	0	0	0%	4	1	25%
	1989	97	42	43.3%	36	21	58.33%	133	63	47.37%
	1990	1239	649	52.38%	174	85	48.85%	1413	734	51.95%
	1991	414	208	50.24%	33	15	45.45%	447	223	49.89%
	1992	1277	663	51.92%	130	64	49.23%	1407	727	51.67%
	1993	404	213	52.72%	34	17	50%	438	230	52.51%
	1994	1471	724	49.22%	150	68	45.33%	1621	792	48.86%
	1995	434	224	51.61%	60	24	40%	494	248	50.2%
	1996	51	24	47.06%	34	21	61.76%	85	45	52.94%
	1997	133	54	40.6%	113	50	44.25%	246	104	42.28%
	1998	39	13	33.33%	19	6	31.58%	58	19	32.76%
	1999	49	16	32.65%	105	46	43.81%	154	62	40.26%
	2000	17	9	52.94%	23	13	56.52%	40	22	55%
	2001	67	12	17.91%	43	13	30.23%	110	25	22.73%
	2002	5	1	20%	9	4	44.44%	14	5	35.71%
	2003	30	1	3.33%	30	4	13.33%	60	5	8.33%
	2004	4	0	0%	4	0	0%	8	0	0%
	2005	10	2	20%	13	2	15.38%	23	4	17.39%
	2006	4	0	0%	5	1	20%	9	1	11.11%
	2007	11	1	9.09%	5	1	20%	16	2	12.5%
	2008-2014	0	0	0%	2	0	0%	2	0	0%
Subtotal Two-Speed Idle		5765	2859	49.59%	1022	455	44.52%	6787	3314	48.83%

Continued: Table 5 - 2ii. Vehicles Failing First Retest

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
Diesel Snap	1982-1988				0	0	0%	0	0	0%
	1989				11	4	36.36%	11	4	36.36%
	1990				76	36	47.37%	76	36	47.37%
	1991				16	4	25%	16	4	25%
	1992				105	47	44.76%	105	47	44.76%
	1993				46	24	52.17%	46	24	52.17%
	1994				232	134	57.76%	232	134	57.76%
	1995				54	27	50%	54	27	50%
	1996				42	25	59.52%	42	25	59.52%
	1997				222	114	51.35%	222	114	51.35%
	1998				41	23	56.1%	41	23	56.1%
	1999				146	58	39.73%	146	58	39.73%
	2000				32	15	46.88%	32	15	46.88%
	2001				164	51	31.1%	164	51	31.1%
	2002				32	11	34.38%	32	11	34.38%
	2003				357	166	46.5%	357	166	46.5%
	2004				44	23	52.27%	44	23	52.27%
	2005				258	107	41.47%	258	107	41.47%
	2006				69	25	36.23%	69	25	36.23%
	2007				18	3	16.67%	18	3	16.67%
	2008				10	4	40%	10	4	40%
	2009-2014				1	0	0%	1	0	0%
	Subtotal Diesel Snap				1976	901	45.6%	1976	901	45.6%
Grand Total		86374	42044	48.68%	2998	1356	45.23%	89372	43400	48.56%

Table 6 - 2iii. Vehicles Passing First Retest

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
OBD	1996	1887	836	44.30%				1887	836	44.30%
	1997	11894	5507	46.30%				11894	5507	46.30%
	1998	2458	1267	51.55%				2458	1267	51.55%
	1999	11118	5790	52.08%				11118	5790	52.08%
	2000	2753	1420	51.58%				2753	1420	51.58%
	2001	16842	7727	45.88%				16842	7727	45.88%
	2002	2824	1472	52.12%				2824	1472	52.12%
	2003	12782	6886	53.87%				12782	6886	53.87%
	2004	1821	1045	57.39%				1821	1045	57.39%
	2005	8962	5130	57.24%				8962	5130	57.24%
	2006	1230	728	59.19%				1230	728	59.19%
	2007	5473	3247	59.33%				5473	3247	59.33%
	2008	534	346	64.79%				534	346	64.79%
	2009	14	11	78.57%				14	11	78.57%
	2010	8	6	75%				8	6	75%
	2011	2	1	50%				2	1	50%
	2012	4	3	75%				4	3	75%
	2013	3	2	66.67%				3	2	66.67%
	2014	0	0	0%				0	0	0%
	2015	0	0	0%				0	0	0%
Subtotal		80609	41424	51.39%				80609	41424	51.39%

Continued: Table 6 - 2iii. Vehicles Passing First Retest

		Light Duty Vehicle			Heavy Duty Vehicle			Total		
Test Type	Model Year	Test Count	Test Passed	% Passed	Test Count	Test Passed	% Passed	Test Count	Test Passed	% Passed
Two-Speed Idle	1965-1980	1	0	0%	0	0	0%	1	0	0%
	1983	1	1	100%	0	0	0%	1	1	100%
	1984	0	0	0%	0	0	0%	0	0	0%
	1985	1	1	100%	0	0	0%	1	1	100%
	1986	1	0	0%	0	0	0%	1	0	0%
	1987	1	1	100%	0	0	0%	1	1	100%
	1988	4	3	75%	0	0	0%	4	3	75%
	1989	97	55	56.7%	36	15	41.67%	133	70	52.63%
	1990	1239	590	47.62%	174	89	51.15%	1413	679	48.05%
	1991	414	206	49.76%	33	18	54.55%	447	224	50.11%
	1992	1277	614	48.08%	130	66	50.77%	1407	680	48.33%
	1993	404	191	47.28%	34	17	50%	438	208	47.49%
	1994	1471	747	50.78%	150	82	54.67%	1621	829	51.14%
	1995	434	210	48.39%	60	36	60%	494	246	49.8%
	1996	51	27	52.94%	34	13	38.24%	85	40	47.06%
	1997	133	79	59.4%	113	63	55.75%	246	142	57.72%
	1998	39	26	66.67%	19	13	68.42%	58	39	67.24%
	1999	49	33	67.35%	105	59	56.19%	154	92	59.74%
	2000	17	8	47.06%	23	10	43.48%	40	18	45%
	2001	67	55	82.09%	43	30	69.77%	110	85	77.27%
	2002	5	4	80%	9	5	55.56%	14	9	64.29%
	2003	30	29	96.67%	30	26	86.67%	60	55	91.67%
	2004	4	4	100%	4	4	100%	8	8	100%
	2005	10	8	80%	13	11	84.62%	23	19	82.61%
	2006	4	4	100%	5	4	80%	9	8	88.89%
	2007	11	10	90.91%	5	4	80%	16	14	87.5%
	2008	0	0	0%	2	2	100%	2	2	100%
	2009-2014	0	0	0%	0	0	0%	0	0	0%
Subtotal Two-Speed Idle		5765	2906	50.41%	1022	567	55.48%	6787	3473	51.17%

Continued: Table 6 - 2iii. Vehicles Passing First Retest

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Passed	% Passed	Test Count	Test Passed	% Passed	Test Count	Test Passed	% Passed
Diesel Snap	1982-1988				0	0	0%	0	0	0%
	1989				11	7	63.64%	11	7	63.64%
	1990				76	40	52.63%	76	40	52.63%
	1991				16	12	75%	16	12	75%
	1992				105	58	55.24%	105	58	55.24%
	1993				46	22	47.83%	46	22	47.83%
	1994				232	98	42.24%	232	98	42.24%
	1995				54	27	50%	54	27	50%
	1996				42	17	40.48%	42	17	40.48%
	1997				222	108	48.65%	222	108	48.65%
	1998				41	18	43.9%	41	18	43.9%
	1999				146	88	60.27%	146	88	60.27%
	2000				32	17	53.12%	32	17	53.12%
	2001				164	113	68.9%	164	113	68.9%
	2002				32	21	65.62%	32	21	65.62%
	2003				357	191	53.5%	357	191	53.5%
	2004				44	21	47.73%	44	21	47.73%
	2005				258	151	58.53%	258	151	58.53%
	2006				69	44	63.77%	69	44	63.77%
	2007				18	15	83.33%	18	15	83.33%
	2008				10	6	60%	10	6	60%
	2009-2013				0	0	0%	0	0	0%
	2014				1	1	100%	1	1	100%
	Subtotal Diesel Snap				1976	1075	54.4%	1976	1075	54.4%
Grand Total		86374	44330	51.32%	2998	1642	54.77%	89372	45972	51.44%

Table 7 - 2iv. Vehicles Passing the Second or Subsequent Retest

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
OBD	1996	642	233	36.29%				642	233	36.29%
	1997	2195	928	42.28%				2195	928	42.28%
	1998	574	273	47.56%				574	273	47.56%
	1999	1460	720	49.32%				1460	720	49.32%
	2000	552	279	50.54%				552	279	50.54%
	2001	3134	1460	46.59%				3134	1460	46.59%
	2002	712	334	46.91%				712	334	46.91%
	2003	1845	947	51.33%				1845	947	51.33%
	2004	411	206	50.12%				411	206	50.12%
	2005	1323	739	55.86%				1323	739	55.86%
	2006	275	154	56%				275	154	56%
	2007	738	443	60.03%				738	443	60.03%
	2008	132	76	57.58%				132	76	57.58%
	2009	0	0	0%				0	0	0%
	2010	1	0	0%				1	0	0%
	2011	0	0	0%				0	0	0%
	2012	1	0	0%				1	0	0%
	2013	1	1	100%				1	1	100%
	2014	0	0	0%				0	0	0%
	2015	0	0	0%				0	0	0%
Subtotal		13996	6793	48.54%				13996	6793	48.54%

Continued: Table 7 - 2iv. Vehicles Passing the Second or Subsequent Retest

		Light Duty Vehicle			Heavy Duty Vehicle			Total		
Test Type	Model Year	Test Count	Test Passed	% Passed	Test Count	Test Passed	% Passed	Test Count	Test Passed	% Passed
Two-Speed Idle	1965-1988	0	0	0%	0	0	0%	0	0	0%
	1989	37	16	43.24%	7	3	42.86%	44	19	43.18%
	1990	326	125	38.34%	36	12	33.33%	362	137	37.85%
	1991	125	49	39.2%	7	3	42.86%	132	52	39.39%
	1992	389	140	35.99%	32	15	46.88%	421	155	36.82%
	1993	160	57	35.62%	12	6	50%	172	63	36.63%
	1994	348	152	43.68%	35	16	45.71%	383	168	43.86%
	1995	171	61	35.67%	19	10	52.63%	190	71	37.37%
	1996	36	17	47.22%	14	4	28.57%	50	21	42%
	1997	57	28	49.12%	21	10	47.62%	78	38	48.72%
	1998	10	9	90%	5	2	40%	15	11	73.33%
	1999	32	11	34.38%	16	9	56.25%	48	20	41.67%
	2000	16	8	50%	3	1	33.33%	19	9	47.37%
	2001	21	15	71.43%	9	1	11.11%	30	16	53.33%
	2002	6	6	100%	4	3	75%	10	9	90%
	2003	15	13	86.67%	7	6	85.71%	22	19	86.36%
	2004	6	5	83.33%	0	0	0%	6	5	83.33%
	2005	11	9	81.82%	1	1	100%	12	10	83.33%
	2006	0	0	0%	0	0	0%	0	0	0%
	2007	9	9	100%	0	0	0%	9	9	100%
	2008	1	1	100%	2	2	100%	3	3	100%
	2009	0	0	0%	0	0	0%	0	0	0%
	2010	1	1	100%	0	0	0%	1	1	100%
	2011-2014	0	0	0%	0	0	0%	0	0	0%
Subtotal Two-Speed Idle		1777	732	41.19%	230	104	45.22%	2007	836	41.65%

Continued: Table 7 - 2iv. Vehicles Passing the Second or Subsequent Retest

		Light Duty Vehicle			Heavy Duty Vehicle			Total		
Test Type	Model Year	Test Count	Test Passed	% Passed	Test Count	Test Passed	% Passed	Test Count	Test Passed	% Passed
Diesel Snap	1982-1988				0	0	0%	0	0	0%
	1989				4	4	100%	4	4	100%
	1990				21	13	61.9%	21	13	61.9%
	1991				1	1	100%	1	1	100%
	1992				27	6	22.22%	27	6	22.22%
	1993				18	11	61.11%	18	11	61.11%
	1994				65	25	38.46%	65	25	38.46%
	1995				25	11	44%	25	11	44%
	1996				22	7	31.82%	22	7	31.82%
	1997				65	23	35.38%	65	23	35.38%
	1998				17	4	23.53%	17	4	23.53%
	1999				35	12	34.29%	35	12	34.29%
	2000				20	6	30%	20	6	30%
	2001				31	16	51.61%	31	16	51.61%
	2002				12	5	41.67%	12	5	41.67%
	2003				142	38	26.76%	142	38	26.76%
	2004				22	8	36.36%	22	8	36.36%
	2005				75	40	53.33%	75	40	53.33%
	2006				35	14	40%	35	14	40%
	2007				2	1	50%	2	1	50%
	2008				7	2	28.57%	7	2	28.57%
	2009-2014				0	0	0%	0	0	0%
Subtotal Diesel Snap					646	247	38.24%	646	247	38.24%
Grand Total		15773	7525	47.71%	876	351	40.07%	16649	7876	47.31%

Table 8 - 2v. Vehicles Initially Failed Receiving a Waiver

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
OBD	1996	2102	737	35.06%				2102	737	35.06%
	1997	14138	4959	35.08%				14138	4959	35.08%
	1998	2659	846	31.82%				2659	846	31.82%
	1999	13170	4332	32.89%				13170	4332	32.89%
	2000	2840	990	34.86%				2840	990	34.86%
	2001	19499	7106	36.44%				19499	7106	36.44%
	2002	2858	963	33.69%				2858	963	33.69%
	2003	14621	4646	31.78%				14621	4646	31.78%
	2004	1823	551	30.22%				1823	551	30.22%
	2005	10077	2906	28.84%				10077	2906	28.84%
	2006	1226	365	29.77%				1226	365	29.77%
	2007	6149	1680	27.32%				6149	1680	27.32%
	2008	529	110	20.79%				529	110	20.79%
	2009	32	4	12.50%				32	4	12.50%
	2010	14	0	0%				14	0	0%
	2011	6	1	16.67%				6	1	16.67%
	2012	5	0	0%				5	0	0%
	2013	4	0	0%				4	0	0%
	2014	0	0	0%				0	0	0%
	2015	0	0	0%				0	0	0%
Subtotal		91752	30196	32.91%				91752	30196	32.91%

Continued: Table 8 - 2v. Vehicles Initially Failed Receiving a Waiver

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Waived	% Waived	Test Count	Waived	% Waived	Test Count	Waived	% Waived
Two-Speed Idle	1965	1	1	100%	0	0	0%	1	1	100%
	1969-1987	15	0	0%	3	0	0%	18	0	0%
	1988	8	1	12.5%	0	0	0%	8	1	12.5%
	1989	92	25	27.17%	38	18	47.37%	130	43	33.08%
	1990	1577	444	28.15%	226	58	25.66%	1803	502	27.84%
	1991	481	120	24.95%	43	9	20.93%	524	129	24.62%
	1992	1629	398	24.43%	157	34	21.66%	1786	432	24.19%
	1993	503	128	25.45%	36	9	25%	539	137	25.42%
	1994	1829	456	24.93%	190	48	25.26%	2019	504	24.96%
	1995	545	133	24.4%	63	13	20.63%	608	146	24.01%
	1996	64	12	18.75%	32	12	37.5%	96	24	25%
	1997	124	30	24.19%	134	37	27.61%	258	67	25.97%
	1998	33	5	15.15%	18	4	22.22%	51	9	17.65%
	1999	41	12	29.27%	112	32	28.57%	153	44	28.76%
	2000	11	2	18.18%	27	11	40.74%	38	13	34.21%
	2001	23	5	21.74%	42	10	23.81%	65	15	23.08%
	2002	4	1	25%	6	3	50%	10	4	40%
	2003	14	2	14.29%	20	3	15%	34	5	14.71%
	2004	0	1	0%	2	0	0%	2	1	50%
	2005	3	2	66.67%	13	0	0%	16	2	12.5%
	2006	3	0	0%	4	1	25%	7	1	14.29%
	2007	6	1	16.67%	4	1	25%	10	2	20%
	2008	1	1	100%	0	0	0%	1	1	100%
	2009-2014	0	0	0%	0	0	0%	0	0	0%
Subtotal Two-Speed Idle		7007	1780	25.4%	1170	303	25.9%	8177	2083	25.47%

Continued: Table 8 - 2v. Vehicles Initially Failed Receiving a Waiver

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Test Count	Waived	% Waived	Test Count	Waived	% Waived	Test Count	Waived	% Waived
Diesel Snap	1982-1989				10	0	0%	10	0	0%
	1990				93	18	19.35%	93	18	19.35%
	1991				19	3	15.79%	19	3	15.79%
	1992				134	31	23.13%	134	31	23.13%
	1993				52	9	17.31%	52	9	17.31%
	1994				284	95	33.45%	284	95	33.45%
	1995				64	15	23.44%	64	15	23.44%
	1996				44	15	34.09%	44	15	34.09%
	1997				270	83	30.74%	270	83	30.74%
	1998				49	13	26.53%	49	13	26.53%
	1999				175	45	25.71%	175	45	25.71%
	2000				34	7	20.59%	34	7	20.59%
	2001				177	31	17.51%	177	31	17.51%
	2002				29	5	17.24%	29	5	17.24%
	2003				408	111	27.21%	408	111	27.21%
	2004				47	10	21.28%	47	10	21.28%
	2005				308	51	16.56%	308	51	16.56%
	2006				76	11	14.47%	76	11	14.47%
	2007				23	1	4.35%	23	1	4.35%
	2008				14	1	7.14%	14	1	7.14%
	2009-2014				1	0	0%	1	0	0%
Subtotal Diesel Snap					2311	555	24.02%	2311	555	24.02%
Grand Total		98759	31976	32.38%	3481	858	24.65%	102240	32834	32.11%

Table 9 - 2vi. Vehicles With No Known Final Outcome

Test Type	Model Year	Light Duty Vehicle								
		Tested	Unknown Outcome	% Unknown Outcome	Test Count	Test Failed	% Failed	Test Count	Test Failed	% Failed
OBD										
	1996	7953	637	8.01%				7953	637	8.01%
	1997	73984	2857	3.86%				73984	2857	3.86%
	1998	13208	716	5.42%				13208	716	5.42%
	1999	98920	2356	2.38%				98920	2356	2.38%
	2000	17243	680	3.94%				17243	680	3.94%
	2001	121862	3271	2.68%				121862	3271	2.68%
	2002	16521	617	3.73%				16521	617	3.73%
	2003	136944	2124	1.55%				136944	2124	1.55%
	2004	16216	370	2.28%				16216	370	2.28%
	2005	152134	1236	0.81%				152134	1236	0.81%
	2006	15941	194	1.22%				15941	194	1.22%
	2007	150799	721	0.48%				150799	721	0.48%
	2008	14013	79	0.56%				14013	79	0.56%
	2009	717	17	2.37%				717	17	2.37%
	2010	383	7	1.83%				383	7	1.83%
	2011	262	5	1.91%				262	5	1.91%
	2012	459	2	0.44%				459	2	0.44%
	2013	176	1	0.57%				176	1	0.57%
	2014	53	0	0%				53	0	0%
	2015	3	0	0%				3	0	0%
Subtotal OBD		837791	15890	1.9%				837791	15890	1.9%

Continued: Table 9 - 2vi. Vehicles With No Known Final Outcome

		Light Duty Vehicle			Heavy Duty Vehicle			Total		
Test Type	Model Year	Tested	Unknown Outcome	% Unknown Outcome	Tested	Unknown Outcome	% Unknown Outcome	Tested	Unknown Outcome	% Unknown Outcome
Two Speed Idle	1965	1	0	0%	0	0	0%	1	0	0%
	1969	1	1	100%	0	0	0%	1	1	100%
	1976	0	0	0%	1	1	100%	1	1	100%
	1977	0	0	0%	1	0	0%	1	0	0%
	1978	1	0	0%	0	0	0%	1	0	0%
	1979	2	1	50%	0	0	0%	2	1	50%
	1980	1	1	100%	0	0	0%	1	1	100%
	1983	3	1	33.33%	0	0	0%	3	1	33.33%
	1984	6	1	16.67%	2	0	0%	8	1	12.5%
	1985	4	0	0%	2	2	100%	6	2	33.33%
	1986	17	3	17.65%	2	0	0%	19	3	15.79%
	1987	28	4	14.29%	4	0	0%	32	4	12.5%
	1988	58	3	5.17%	10	0	0%	68	3	4.41%
	1989	881	41	4.65%	214	14	6.54%	1095	55	5.02%
	1990	20599	430	2.09%	2040	65	3.19%	22639	494	2.18%
	1991	5006	175	3.5%	450	15	3.33%	5456	188	3.45%
	1992	27763	449	1.62%	1969	42	2.13%	29732	491	1.65%
	1993	6633	189	2.85%	511	13	2.54%	7144	200	2.8%
	1994	43994	457	1.04%	2941	45	1.53%	46935	496	1.06%
	1995	9322	194	2.08%	694	13	1.87%	10016	203	2.03%
	1996	1197	27	2.26%	615	7	1.14%	1812	34	1.88%
	1997	1933	45	2.33%	3716	30	0.81%	5649	75	1.33%
	1998	540	9	1.67%	655	5	0.76%	1195	14	1.17%
	1999	343	18	5.25%	5100	16	0.31%	5443	34	0.62%
	2000	136	3	2.21%	1096	8	0.73%	1232	11	0.89%
	2001	441	7	1.59%	5024	9	0.18%	5465	16	0.29%
	2002	257	1	0.39%	904	0	0%	1161	1	0.09%
	2003	1480	5	0.34%	5221	4	0.08%	6701	9	0.13%
	2004	83	0	0%	1141	1	0.09%	1224	1	0.08%
	2005	605	2	0.33%	4731	2	0.04%	5336	4	0.07%
	2006	348	0	0%	1438	2	0.14%	1786	2	0.11%
	2007	1064	3	0.28%	4107	1	0.02%	5171	4	0.08%
	2008-2014	37	0	0%	948	0	0%	985	0	0%
Subtotal Two Speed Idle		122784	2070	1.69%	43537	295	0.68%	166321	2350	1.41%

Continued: Table 9 - 2vi. Vehicles With No Known Final Outcome

Test Type	Model Year	Light Duty Vehicle			Heavy Duty Vehicle			Total		
		Tested	Unknown Outcome	% Unknown Outcome	Tested	Unknown Outcome	% Unknown Outcome	Tested	Unknown Outcome	% Unknown Outcome
Diesel Snap	1982-1987				7	0	0%	7	0	0%
	1988				7	1	14.29%	7	1	14.29%
	1989				70	0	0%	70	0	0%
	1990				589	21	3.57%	589	21	3.57%
	1991				189	6	3.17%	189	6	3.17%
	1992				703	38	5.41%	703	38	5.41%
	1993				264	16	6.06%	264	16	6.06%
	1994				1110	56	5.05%	1110	56	5.05%
	1995				394	21	5.33%	394	21	5.33%
	1996				376	9	2.39%	376	9	2.39%
	1997				2517	57	2.26%	2517	57	2.26%
	1998				418	21	5.02%	418	21	5.02%
	1999				4193	30	0.72%	4193	30	0.72%
	2000				812	9	1.11%	812	9	1.11%
	2001				4636	18	0.39%	4636	18	0.39%
	2002				727	6	0.83%	727	6	0.83%
	2003				4917	74	1.5%	4917	74	1.5%
	2004				895	16	1.79%	895	16	1.79%
	2005				6060	62	1.02%	6060	62	1.02%
	2006				1250	16	1.28%	1250	16	1.28%
	2007				677	6	0.89%	677	6	0.89%
	2008				194	5	2.58%	194	5	2.58%
	2009-2014				135	0	0%	135	0	0%
	Subtotal Diesel Snap				31140	488	1.57%	31140	488	1.57%
Grand Total		960575	18056	1.88%	74677	785	1.05%	197,461	18728	1.81%

There were 18,728 vehicles with an “unknown outcome” which are vehicles with an initial fail that have not yet completed the testing process by the end of the calendar year.

Table 10 - 2xi 2xii. Vehicles Passing and Failing OBD

		Light Duty Vehicle				
Test Type	Model Year	Test Count	Test Passed	% Passed	Test Failed	% Failed
OBD	1996	10399	6837	65.75%	3562	34.25%
	1997	88037	66245	75.25%	21792	24.75%
	1998	16174	12023	74.34%	4151	25.66%
	1999	111473	92235	82.74%	19238	17.26%
	2000	20464	16018	78.27%	4446	21.73%
	2001	141807	111519	78.64%	30288	21.36%
	2002	19980	15392	77.04%	4588	22.96%
	2003	151550	130135	85.87%	21415	14.13%
	2004	18420	15616	84.78%	2804	15.22%
	2005	162412	147919	91.08%	14493	8.92%
	2006	17427	15578	89.39%	1849	10.61%
	2007	157008	148338	94.48%	8670	5.52%
	2008	14669	13896	94.73%	773	5.27%
	2009	731	696	95.21%	35	4.79%
	2010	392	375	95.66%	17	4.34%
	2011	264	257	97.35%	7	2.65%
	2012	464	457	98.49%	7	1.51%
	2013	180	175	97.22%	5	2.78%
	2014	53	53	100%	0	0%
	2015	3	3	100%	0	0%
Total OBD		931907	793767	85.18%	138140	14.82%

Table 11 - 2xix. MIL Commanded On and No Codes Stored

		Light Duty Vehicle		
Test Type	Model Year	Test Count	MIL On & No Codes Stored	% MIL On & No Codes Stored
OBD	1996	10399	9	0.09%
	1997	88037	37	0.04%
	1998	16174	13	0.08%
	1999	111473	90	0.08%
	2000	20464	28	0.14%
	2001	141807	61	0.04%
	2002	19980	8	0.04%
	2003	151550	128	0.08%
	2004	18420	15	0.08%
	2005	162412	80	0.05%
	2006	17427	15	0.09%
	2007	157008	46	0.03%
	2008	14669	5	0.03%
	2009	731	0	0%
	2010	392	0	0%
	2011	264	0	0%
	2012	464	0	0%
	2013	180	0	0%
	2014	53	0	0%
	2015	3	0	0%
Total OBD		931907	535	0.06%

Table 12 - 2xx. MIL Commanded Off and Codes are Stored

		Light Duty Vehicle		
Test Type	Model Year	Test Count	MIL Off & Codes Stored	% MIL Off & Codes Stored
OBD	1996	10399	166	1.6%
	1997	88037	1032	1.17%
	1998	16174	335	2.07%
	1999	111473	1164	1.04%
	2000	20464	469	2.29%
	2001	141807	1549	1.09%
	2002	19980	515	2.58%
	2003	151550	1419	0.94%
	2004	18420	425	2.31%
	2005	162412	1162	0.72%
	2006	17427	345	1.98%
	2007	157008	787	0.5%
	2008	14669	153	1.04%
	2009	731	7	0.96%
	2010	392	2	0.51%
	2011	264	2	0.76%
	2012	464	0	0%
	2013	180	0	0%
	2014	53	0	0%
	2015	3	0	0%
Total OBD		931907	9532	1.02%

Table 13 - 2xxi. MIL Commanded On and Codes Stored

		Light Duty Vehicle		
Test Type	Model Year	Test Count	MIL On & Codes Stored	% MIL On & Codes Stored
OBD	1996	10399	2440	23.46%
	1997	88037	16776	19.06%
	1998	16174	3132	19.36%
	1999	111473	15898	14.26%
	2000	20464	3456	16.89%
	2001	141807	22086	15.57%
	2002	19980	2947	14.75%
	2003	151550	16161	10.66%
	2004	18420	1812	9.84%
	2005	162412	10537	6.49%
	2006	17427	1143	6.56%
	2007	157008	6323	4.03%
	2008	14669	423	2.88%
	2009	731	17	2.33%
	2010	392	6	1.53%
	2011	264	5	1.89%
	2012	464	2	0.43%
	2013	180	0	0%
	2014	53	0	0%
	2015	3	0	0%
Total OBD		931907	103164	11.07%

Table 14 - 2xxii. MIL Commanded Off and No Codes Stored

		Light Duty Vehicle		
Test Type	Model Year	Test Count	MIL Off & No Codes Stored	% MIL Off & No Codes Stored
OBD	1996	10399	7774	74.76%
	1997	88037	70142	79.67%
	1998	16174	12690	78.46%
	1999	111473	94268	84.57%
	2000	20464	16501	80.63%
	2001	141807	118041	83.24%
	2002	19980	16504	82.6%
	2003	151550	133794	88.28%
	2004	18420	16157	87.71%
	2005	162412	150600	92.73%
	2006	17427	15915	91.32%
	2007	157008	149812	95.42%
	2008	14669	14086	96.03%
	2009	731	707	96.72%
	2010	392	384	97.96%
	2011	264	257	97.35%
	2012	464	462	99.57%
	2013	180	180	100%
	2014	53	53	100%
	2015	3	3	100%
Total OBD		931907	818330	87.81%

Table 15 - 2xxiii. Vehicles Failing the Readiness Status

		Light Duty Vehicle		
Test Type	Model Year	Test Count	Failed Readiness Status	% Failed
OBD	1996	10399	1113	10.7%
	1997	88037	4975	5.65%
	1998	16174	1013	6.26%
	1999	111473	3293	2.95%
	2000	20464	981	4.79%
	2001	141807	8137	5.74%
	2002	19980	1634	8.18%
	2003	151550	5161	3.41%
	2004	18420	983	5.34%
	2005	162412	3906	2.4%
	2006	17427	691	3.97%
	2007	157008	2321	1.48%
	2008	14669	349	2.38%
	2009	731	18	2.46%
	2010	392	11	2.81%
	2011	264	2	0.76%
	2012	464	5	1.08%
	2013	180	5	2.78%
	2014	53	0	0%
	2015	3	0	0%
Total OBD		931907	34598	3.71%

Table 16 - 3 a.) Initial Test Volume Centralized Test Stations

Model Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
1965-1986	2	2	1	4	4	1	6	4	1	3	2	3	2	4	3	2	44
1987	4			1	4	1	3	9	1	2	1	4	1	1		1	33
1988	3	2	1	1	8	6	5	13	6	3	2	8	1	2	3		64
1989	72	73	53	95	69	24	38	132	81	78	67	86	59	73	47	51	1098
1990	1129	1381	1375	1958	1653	727	915	2168	1613	1463	991	1801	1040	1767	1890	939	22810
1992	1333	1652	1872	2440	2107	992	1255	2949	2037	1944	1346	2360	1327	2415	2538	1318	29885
1993	315	385	379	454	490	218	230	743	535	415	316	530	386	821	633	323	7173
1994	2176	2778	2943	3634	3219	1686	1966	4781	3298	3030	2139	3727	2022	3915	3854	2037	47205
1995	428	575	510	633	692	279	373	1137	767	546	432	758	545	1170	767	404	10016
1996	395	559	507	627	685	306	387	1027	714	546	417	664	540	1168	814	330	9686
1997	3399	4923	5301	6572	5602	3461	4098	8214	5639	5135	3618	5659	3375	6381	5956	2978	80311
1998	580	767	758	984	1025	525	667	1507	999	779	610	888	741	1761	1113	500	14204
1999	4469	6516	7088	8875	7557	5227	6392	10602	7235	6520	4516	7127	4458	8122	7777	3798	106279
2000	692	1048	999	1365	1368	736	992	1989	1267	961	756	1199	933	2078	1323	671	18377
2001	5290	8018	8795	10959	9054	6958	8170	12560	8755	7955	5663	8482	5001	9417	9464	4419	128960
2002	596	1004	924	1231	1319	803	980	1723	1175	987	643	1120	834	2086	1383	662	17470
2003	5736	9026	9892	12180	10224	8199	10027	13882	9753	8980	6570	9628	5523	10438	10303	4923	145284
2004	645	913	946	1212	1277	862	1179	1635	1119	928	699	1111	850	1947	1286	683	17292
2005	6465	10116	10570	12957	10773	9541	11599	15056	10624	9743	7648	10324	6047	11640	11073	5478	159654
2006	628	986	978	1224	1317	967	1243	1594	1104	934	692	1154	865	1796	1243	684	17409
2007	5592	9678	10192	12582	10914	10394	12933	14561	9947	8943	7062	9377	5272	10530	9978	4706	152661
2008	420	804	714	1011	1163	1001	1242	1226	824	667	504	820	618	1262	986	560	13822
2009-2015	53	86	89	105	160	137	159	468	103	75	57	191	40	92	124	64	2003
Total	40682	61591	65160	81464	71065	53209	65048	98545	67983	60953	44996	67426	40735	79505	73039	35789	1007190

Table 17 - 3 b.) Initial Test Volume Decentralized Test Stations

Model Year	17	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	Total		
1965-1986							1										1						2		
1987													1										1		
1988		3	1													1						1	6		
1989		4	7		7						1				1		1	1			4	2	1	29	
1990	1	58	76	2	60	5					1				1	2	3			2		2	1	2	216
1991		16	13		24					1	1				17	2	1			1	6	12	2	96	
1992	1	68	90	1	83	1					11			2	2	4	7	4		4	4	12	10	5	309
1993		22	31		33						4				1	1	1	1	1	9	5	5	14	3	131
1994	1	117	135	4	126	1				1	4				5	9		9	1	3	3	10	21	6	456
1995		32	28		46					4	1				3	7	2			5	3	17	32	1	181
1996		33	26	1	43				1	3	6	2	32	14	18	4	2	1	9	2	5	24	6	232	
1997	1	291	246	41	239					3	5	4	79	17	10	8	10	3	3	2	11	21	11	1005	
1998		47	36		65		1			4	10	4	20	18	11	7	2	2	11		15	10	6	269	
1999		366	368	10	261				2	1	9	8	18	37	23	15	20	17	4	8	3	11	22	9	1212
2000		81	70		66			4	3	4	13	11	24	23	13	6	3	13	12	8	22	16	9	401	
2001		552	472	8	308	13	17	2	13	2				23	11	17	23	23	14	8	12	14	17	1549	
2002		76	59	5	59			17	3	4	22	13		28	27	10	4	10	14	9	9	19	11	399	
2003	1	646	581	6	266	4	4	3	7	18	35			22	20	4	33	9	16	7	7	19	27	1735	
2004		72	57	5	56			17	1	5	19	4		25	12	13	5	4	28	12	23	20	7	385	
2005		712	656	21	299	5	33	2	10	10	34	2	30	13	3	34	2	10	26	28	8	36	1974		
2006		72	84	5	47			37	2	17	16	20		61	13	9	4	12	21	30	25	34	7	516	
2007		761	684	4	305	15	31	3	4	15	52			25	20	9	76	14	31	43	22	23	24	2161	
2008		86	66		29			31	1	11	15	59		44	33	9	11	20	29	39	11	15	10	519	
2009-2015	0	17	16	0	11	1	0	0	2	0	36	0	2	5	9	3	5	1	0	22	15	0	145		
Total	5	4132	3802	113	2434	45	194	22	102	183	292	196	365	258	149	245	125	230	205	280	352	200	13929		

Table 18 - Continued 3 b.) Initial Test Volume Decentralized Test Stations

Model Year	121	122	123	124	125	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	Total	
1965-1986								1																1
1987						1																		1
1988	1						1	1								1								4
1989	4				1													1			1		2	9
1990	62	25		8							1			6						3		1	106	
1991	18			2		2		4				3	1	1		4		6					41	
1992	73			10	4	1	19	3			2		1	10	2	4		1		3		1	134	
1993	13			4		1	7	1			3	4		1	2			2		2		1	41	
1994	135	3		22				1			1			18	5	5								190
1995	27			5	5	5	13	1			11	5	2	3	3	3			2	2	1	5	93	
1996	29			6	6	2	1	6				1	1	8	8	9		2		1		1	81	
1997	216	118	14	53	7		14	11			1	5	1	25	3	14	8	1	2	6		4	503	
1998	36	6	3	17	10	9	4	14			1	9	4	4	7	17		4	4				149	
1999	274	1		63	17	6	6	23			4	14	7	55	17	29	17	5	1			4	543	
2000	52			11	18	12	4	22			4	12	12	10	22	11	4	11	1	7	4	2	219	
2001	374	63	22	69	26	26	8	22			6	5	23	68	31	25	24	11	1	7	10	6	827	
2002	64	1	1	14	21	37		21	1	1	4	7	5	11	2	3	4	7		8	7	3	222	
2003	474			72	30	22	6	37	34		16	20	16	78	1	7	30	11	15	5	7	1	882	
2004	68			9	25	45	1	26	92		14	5	12	13	2	11	6	10	6	5	31		381	
2005	495	19		79	23	16	10	41	47		2	8	13	71	1	13	19	1	68	13	53	2	994	
2006	57			11	57	25	20	43	134		16	54	17	18	3	10	6	12	105	14	52	11	665	
2007	507	29		114	36	24	25	67	8		7	24	22	94	5	10	25	4	82	12	66	18	1179	
2008	52	2		12	66	9	17	88	7		12	15	25	17		31	7	4	46	2	1		413	
2009-2015	17	0	0	9	12	0	14	37	2	0	1	1	1	16	0	1	2	0	1	0	0	0	114	
Total	3048	267	40	592	363	243	171	468	325	1	105	193	163	528	114	208	152	92	334	91	232	62	7792	

Table 19 - Continued 3 b.) Initial Test Volume Decentralized Test Stations

Model Year	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	160	Total	Grand Total		
1965-1986							1										1	48		
1987																	0	35		
1988																	1	75		
1989	7					1	9	2									13	1156		
1990		1	6			13	63									2	5	1	84	23223
1991	1		2			3	34	1			1					1			40	5630
1992	3		7			31	49			2					3	1	1	87	30425	
1993			1			7	38	1		2		1						49	7395	
1994	2	1	10			38	117	1		4	2				3	4	2	171	48035	
1995	2	1	6	2	1	4	64	6		4					2	6		87	10388	
1996	4		6	2		2	27	3		6								38	10049	
1997	7	1	24	4		43	144	12	1	6	4	15	1	2	10	12		250	82105	
1998	2		1	3	1	10	68	9		3	3	1			1	25		121	14749	
1999	4		30	6		88	285	14	1	3	7	6			9	25	14	452	108526	
2000	3	5	9	13		15	121	6		5	2				1	3	15	4	172	19199
2001	10	3	33	4		124	334	15		6	11	13	3	5	7	25		543	131929	
2002	35	4	8		1	14	99	9		39	3	1	5	2	15			188	18326	
2003	58	6	36	1	4	144	288	6	3	2	7	26	6	12	32	6		536	148538	
2004	64	7	5	2	7	8	107	13	12	3				6	1	13		170	18306	
2005	94	11	28		2	155	393	26	16	5	8	70	5	11	34	42		767	163522	
2006	65	14	2	3	5	9	147	32	27	22	1	1	15			27		286	18960	
2007	48	8	35	2	5	177	183	16	29	17	8	43	19	14	25	14		550	156644	
2008	35	10	2	6		16	96	32	27	1	1		45	2	34			254	15061	
2009-2015	0	4	3	0	12	3	17	0	5	1	0	0	2	1	0	0	41	2310		
Total	444	76	254	48	38	905	2684	204	121	131	58	177	108	74	280	121	5723	1034634		

Table 20 - 4a) Initial Test Failure Rate - Centralized Test Stations

Model Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Total
1965 - 1988	1	1						1	1		1	1		1	1		8
1989	12	6	5	11	9	2	6	17	8	11	10	11	6	10	6	5	135
1990	108	111	104	121	121	59	58	175	149	117	108	165	66	154	141	90	1847
1991	27	41	22	25	37	15	14	63	35	40	25	47	36	47	46	20	540
1992	81	118	101	94	125	40	58	203	137	136	125	157	79	156	180	83	1873
1993	24	28	32	24	34	17	6	68	48	39	32	45	21	68	57	26	569
1994	114	129	130	100	133	69	53	242	189	167	102	221	97	181	194	120	2241
1995	24	42	29	27	35	11	17	100	56	38	29	60	27	62	50	30	637
1996	83	122	111	127	149	70	63	236	174	120	110	188	111	251	207	64	2186
1997	625	978	972	1049	1045	488	532	1653	1053	933	658	1236	513	1092	1086	475	14388
1998	101	149	135	143	173	71	106	352	222	165	120	203	101	318	243	94	2696
1999	528	906	904	968	955	523	603	1536	982	882	565	1093	481	951	957	394	13228
2000	97	173	164	203	206	93	135	337	213	162	116	230	112	272	218	103	2834
2001	790	1327	1355	1532	1504	840	931	2101	1411	1272	808	1431	602	1393	1421	597	19315
2002	103	183	146	181	207	113	134	307	182	167	109	222	104	329	241	97	2825
2003	653	1038	1001	1175	1131	629	798	1543	1059	927	673	1177	475	1053	981	420	14733
2004	70	117	83	131	115	70	102	219	152	109	73	136	67	187	120	41	1792
2005	461	714	654	776	693	424	551	1141	727	653	530	802	332	735	685	292	10170
2006	47	71	73	77	102	49	74	124	91	81	53	91	48	123	93	44	1241
2007	243	415	375	420	422	292	399	703	431	344	329	485	159	405	389	183	5994
2008	18	29	21	29	39	19	38	50	43	31	24	43	27	36	36	26	509
2009 - 2014	1	2	0	5	6	1	2	13	3	1	2	8	0	3	3	2	52
Total	4211	6700	6418	7219	7243	3895	4682	11188	7366	6397	4603	8054	3464	7827	7357	3208	99813

Table 21 - 4b) Initial Test Failure Rate Decentralized Test Stations

Model Year	100	101	102	103	104	105	107	108	109	110	111	112	113	114	115	116	117	118	119	120	Total	
1965 - 1988																			1		1	
1989																					1	
1990	3	5	1	12																	21	
1991	2			1																	3	
1992	3	9		6										1					1	2	1	23
1993		1		6					1										1		10	
1994	7	6	1	8					1										2	2	3	30
1995	3	1		2				1								3	1		1	2	5	19
1996	8	5		13					2			1	1					1		2		33
1997	48	37	2	72					1	1	1	1	1				1		1		2	171
1998	10	7		10			1		2		1	1				1					1	34
1999	48	49	1	56									2	1			2					159
2000	8	12		17					2		1				3				1		1	45
2001	90	62		78		3	6					1	1			2		1		1		246
2002	11	4		8		1	1	5	1			1			1			2	1			36
2003	71	48	1	53			1	3						2			3		1	1		186
2004	12	6		7				1				3	1					2		1		33
2005	40	37		38	1	2		1				1				3		1	2	1		127
2006	8	5		3		2		2				5	1						4			30
2007	34	22		21		1		2	2							7			3	1	2	97
2008	3			2					1			2	1	1	1			1	2	1		15
2009 - 2014	1	1	0	2	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	7	
Total	410	317	6	415	1	10	9	23	5	3	17	11	10	22	3	10	9	18	20	8	1327	

Table 22 – Continued 4b) Initial Test Failure Rate Decentralized Test Stations

Model Year	121	122	123	124	125	127	128	129	130	132	134	135	136	137	138	139	140	141	142	143	144	Total
1965 - 1988																						0
1989	1																			1		2
1990	2	5		3																1		11
1991																						0
1992	8			2	1	1	2									1				1		16
1993	1																					1
1994	7			5										1								13
1995	3					1	4												1		1	10
1996	11			2				1						2	2	1						19
1997	41	4	1	15	1									6			1				1	70
1998	10			5	1		1						2	1					1			21
1999	53			11									8	1	1	3					1	78
2000	8			2	1	1		1		1		1	2	1		1	1			1		21
2001	75	3		22	3	1	1	2				1	12	9		7				2		139
2002	11			2		3							1			1			2	1	4	25
2003	61			12	2	2	1	4	3	1	1	16		2	2				1		2	110
2004	13			1	2	3		5	5	3			2			1			1		3	39
2005	35	4		7			1		5			5				1			2	1	1	62
2006	3					3		3	7		3	3			1	1		3	1	4	32	
2007	19	2		7	1	2		3		2		9	3	1	1		1	1	2	4	2	60
2008	4			1		1		4			1				1							12
2009 - 2014	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	366	18	1	97	12	18	10	25	20	7	9	66	18	8	18	2	2	12	8	8	18	743

Table 23 – Continued 4b) Initial Test Failure Rate Decentralized Test Stations

Model Year	145	146	147	148	149	150	151	152	153	154	155	156	157	158	160	Total	Grand Total
1965 - 1988																0	9
1989																1	139
1990		1			1	13										17	1896
1991																0	543
1992		1			2	5										8	1920
1993		1				10										11	591
1994		1			1	14	1			1						19	2303
1995			1		2	3										6	672
1996		3				1										4	2242
1997	1	11	1		7	9	1		1	1	2					36	14666
1998		1		1	1	3	1									8	2759
1999		6				6	18			1						33	13498
2000	1	4	3		1	3										12	2912
2001		12	1		9	13	1			1	1	1	2			41	19741
2002		2				2	1		1	2	1					10	2896
2003		6			10	11	1			1			4	1		34	15064
2004	2	3			1	1	1									8	1872
2005		4			5	18		2		1	6		3	1	1	41	10400
2006		1				4	1	1								7	1310
2007		5			7	10		2		2	2		3			31	6182
2008						1	3	1			3					8	544
2009 - 2014	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	62
Total	5	61	6	1	53	138	9	8	4	10	12	4	15	8	2	336	102238

